

Precise heart-rate monitor wristwatch Mio Alpha debuts today

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Mio Global is launching a heart-rate monitor and wristwatch dubbed the [Mio Alpha](#). The company claims it is the first performance-level strapless monitor that can

measure your heart rate accurately at speeds up to 12 miles per hour. The company is pitching the \$199 at both professional athletes and those of us who are serious about getting into shape.

The device comes from Vancouver, Canada-based Mio Global, which raised \$321,314 in a [Kickstarter campaign](#) for the Mio Alpha in August. The company was created in 1999 by entrepreneur Liz Dickinson, a mother of three. She designed the Mio family of heart-rate monitor watches. With the early watches, the user touched the sensor on the face of the watch to get a reading. With the Mio Alpha, the company says it can display an EKG-accurate heart rate on the watch continuously, even at high speeds.

The Mio Alpha uses Bluetooth Smart wireless to connect with compatible smartphones and fitness devices. Users can set heart-rate zones and receive visual and audible alerts when they hit them. They can review data from exercises, including total exercise time, average heart rate, and time “in the zone.” The company says that the Alpha’s accuracy has been tested by Philips Electronics and a test facility at the University of Maastricht in the Netherlands. By tracking your heart-rate accurately, you can control the intensity of your workout and discover what areas might need extra attention. Such knowledge helps athletes know when they are under-training or over-training.

Mio says it will certify specific development partners who form an alliance with it. It competes with a number of other devices, including the Basis Health Tracker, which Basis Science launched last week.

The Mio Alpha uses electro-optical technology to sense the heart beat. Similar technology is used in hospitals to monitor heart rates, but the systems can’t be used by people in motion. The Mio Alpha uses two light beams and an electro-optical cell to “sense” the volume of blood under your skin.

“Because the blood volume pulsates in the rhythm of the heart, so does the signal from the electro-optical cell,” the company said in its Kickstarter campaign. “This signal is processed by an advanced electronics circuit and passed on to a highly specialized computer program that is embedded in the Alpha. To date, the stumbling block with this type of technology has been that arm movements while walking or running strongly interfere with the electro-optical signal to the point that it is no longer possible to extract the heart rate from it. In order to solve this problem the

Alpha has been provided with a separate motion detector.”

The company added, “The computer program is able to use the information from this detector to compensate for the disturbance that is generated in the electro-optical signal by walking or running motions. As a result, the Alpha can display an accurate heart rate even during motion intense activities.”

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